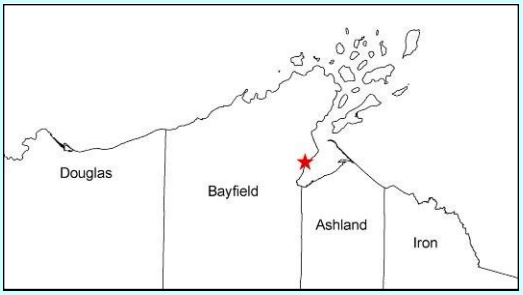
ESTUARIES & COASTAL WETLANDS OF LAKE SUPERIOR

Thompson Creek



Approximate Size: 15 acres*

Ownership: Private

Year Last Surveyed by WDNR/NHI: 2012

GLCWC Classification: Open Embayment

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Site Description

Thompson Creek lies along the east side of the Bayfield Peninsula just southwest of Washburn. The site is bordered to the north by the Washburn wastewater treatment plant, while to immediately south of the creek mouth lies a small subdivision. A narrow sand spit extends southward near the mouth but did not restrict water flow in 2012. Vegetation is dominated by a mixture of degraded wetlands and second growth hardwood forest.

Wetlands south of the creek have been filled with only a narrow margin remaining. Wetlands north of the creek consist of low-quality Emergent Marsh that grades into low-quality Alder Thicket and eventually to low- to moderate-quality Northern Mesic Forest. Extensive beds of submerged aquatics occur in the bay north of the creek and in old creek channels upstream of the creek mouth. Dominant species include common waterweed (*Elodea canadensis*), northern water-milfoil (*Myriophyllum sibiricum*), nodding water-nymph (*Najas flexilis*), and Richardson's pondweed (*Potamogeton richardsonii*). A narrow band of beach and dune occurs adjacent to the creek mouth and is dominated by white willow (*Salix alba*), sandbar willow (*S. exigua*), pussy willow (*S. discolor*), Bebb's willow (*S. bebbiana*) and shining willow (*S. lucida*).

Threats

Hydrologic alterations from surrounding development have had a significant impact to this site through wetland filling and siltation. The adjacent wastewater treatment plant likely contributes to higher nutrient levels in the bay that fuel the growth of aquatic plants. Extensive deposition of sand and silt is present at the creek mouth, indicating possible erosion upstream. Non-native invasive species are prevalent in the wetlands, including common reed (*Phragmites australis*), purple loosestrife (*Lythrum salicaria*), hybrid cat-tail (*Typha* x *glauca*), reed canary grass (*Phalaris arundinacea*) and curly-leaved pondweed (*Potamogeton crispus*). In addition, common hemp-nettle

*Area includes bay, lower creek, associated wetlands, adjacent uplands.

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(*Galeopsis tetrahit*), common buckthorn (*Rhamnus cathartica*) and showy bush honeysuckle (*Lonicera* x *bella*) are common to abundant in the Alder Thicket and adjacent upland forest.

Additional Comments

Currently, beds of aquatic macrophytes in the bay are composed of native species, but non-native invasive species are present in the vicinity. Monitoring of species composition and dominance is recommended in conjunction with monitoring of water chemistry in the bay, which may be influenced by effluent from the wastewater treatment plant. The invasive species curly-leaved pondweed, common reed, and common hemp-nettle are currently uncommon in coastal wetlands in the Lake Superior South Shore region and should be a high priority for control to prevent their spread to other higher-quality areas. Across the Lake Superior clay plain, water quality and wetland function are known to be adversely affected by open lands (*e.g.*, developed land, agriculture, young forest) and positively affected by older forests and conifers. Land use analysis of the watershed and associated water quality monitoring could facilitate better understanding of this site's aquatic and wetland resources.

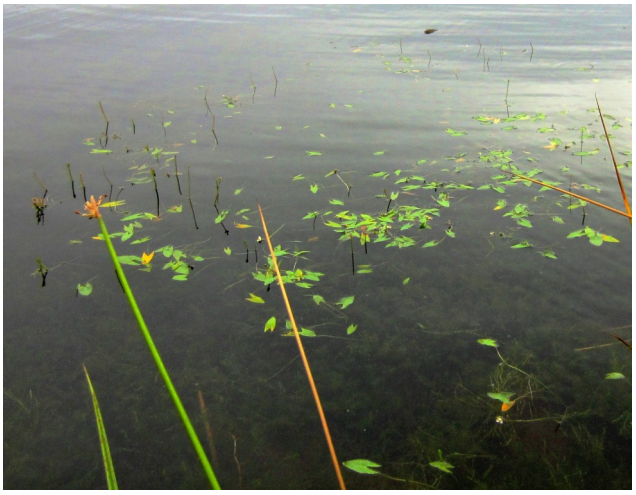
Abbreviations and Helpful References

GLCWC - Great Lakes Coastal Wetland Classification. glc.org/wetlands/pdf/wetlands-class_rev1.pdf

WDNR Coastal Wetlands webpages - http://dnr.wi.gov, Keyword: "coastal wetlands"

WDNR/NHI - Wisconsin Department of Natural Resources, Natural Heritage Inventory Program. http://dnr.wi.gov , Keyword: "nhi"

Managing Woodlands on Lake Superior's Red Clay Plain - WDNR publication #PUB-FR-385 2007. http://dnr.wi.gov, Keyword: "bmp landowner guides"



Amy Staffen

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Beds of aquatic plants occur in a shallow bay (left); non-native invasive species such as common reed (right) at Thompson Creek.

Suggested Citation

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